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ABSTRACT

To evaluate and test the effectiveness of the "Procedures Manual for Assisting the Socioeconomic Impact of the Construction and Operation of Coal Utilization Facilities in the Old West Region," an impact study of a proposed electric generating station on the Laramie River near Wheatland, Wyoming, identifies difficulties encountered in the application of the "Procedures Manual" and recommends necessary remedial action. Major weaknesses are: the nonavailability of input data from the listed sources; application of formulae, especially in the area of determining base and nonbase employment; technical misstatements of formulae; and limitations of the quantitative results. Data indicate the power plant and its 2500 new construction employees are likely to affect all phases of the rural community and place intense pressures upon the units of government for additional facilities and services, resulting in temporary city and school district deficits until increased property tax revenues upon completion of the power plant can off set them. Knowledge of the relative magnitude of the power plant impacts provides local officials with a valuable planning tool. It is in this area that the "Procedures Manual" fulfills a necessary objective. (NEC)

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# AN APPLICATION OF A PROCEDURES MANUAL

## For Assessing The Socioeconomic Impact Of The Construction And Operation Of Coal Utilization Facilities In The Old West Region

RC 011429

THE OLD WEST REGIONAL COMMISSION
November 1975

AN APPLICATION OF

A PROCEDURES MANUAL

# FOR ASSESSING THE SOCIOECONOMIC IMPACT OF THE CONSTRUCTION AND OPERATION OF COAL UTILIZATION FACILITIES IN THE OLD WEST REGION

FOR THE

OLD WEST REGIONAL COMMISSION

NOVEMBER, 1975
WESTERN ANALYSTS

The Old West Region Commission is a Federal-State partnership designed to solve regional economic problems and stimulate orderly economic growth in the states of Montana, Nebraska, North Dakota, Soutn Dakota and Wyoming. Established in 1972 under the Public Works and Economic Development Act of 1965, it is one of seven identical Commissions throughout the country engaged in formulating and carrying out coordinated action plans for regional economic development.

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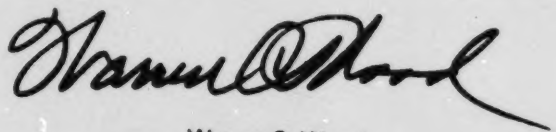
## FOREWORD

This report deals with the application of a "Procedures Manual for Assessing the Socioeconomic Impact of the Construction and Operation of Coal Utilization Facilities in the Old West Region." It is one of two volumes detailing the results obtained by applying the manual to the construction of a proposed electric generating station on the Laramie River near Wheatland, Wyoming. The Commission is indebted to the contractors and to those who assisted in testing the suitability of the manual for use in impacted communities.



Warren C. Wood
*Federal Cochairman*

# INTRODUCTION

The Old West Regional Commission recently contracted for the preparation of "A Procedures Manual for Assessing the Socioeconomic Impact of the Construction and Operation of Coal Utilization Facilities in the Old West Region". Following the completion of the Procedures Manual in June, 1974, a contract was awarded in early 1975 to evaluate and test the effectiveness of the Manual. An actual community was selected and the Procedures Manual applied to that community. The results of the application of the Manual to the selected community are presented in this report.

The reader should be cautioned that this report is not intended to stand alone. Reference should also be made to a companion report, "An Evaluation of a Procedures Manual for Assessing the Socioeconomic Impact of the Construction and Operation of Coal Utilization Facilities in the Old West Region", and to the actual Procedures Manual.

The Missouri Basin Power Project has filed for a certificate of public convenience and necessity with the Wyoming Public Service Commission to construct and operate a large electric generating station on the Laramie River near Wheatland, Wyoming. The proposed complex is to be built as a joint regional project for several consumer-owned utilities in an eight-state area. By the mid-1980's, the Laramie River Station is expected to produce 1500 megawatts of power, in addition

to the power required to run the plant. The plant is designed to be built in three 500-megawatt units, the first of which is supposed to be operational by 1980. The complex is planned to include a railroad spur for coal delivery, an earth-filled dam and a reservoir with a capacity of approximately 100,000 acre feet. Total cost of the Laramie River Station is estimated at $1.2 billion.

With a population of approximately 2700 persons, Wheatland serves as a retail trade center for a ranching and farming area. The construction and operation of the proposed 1500 megawatt generating station would cause significant changes in the requirements placed upon government agencies in the area. Forecasts of these changes in requirements were estimated for Wheatland and Platte County using the Procedures Manual.

The results obtained from the application of the Procedures Manual to Wheatland and Platte County are presented in the remainder of this report. Difficulties encountered in the application of the Manual are noted and the necessary remedial actions discussed. While no attempt is made to include all intermediate results of the many formulae in the Procedures Manual, important intermediate results are noted. The effects of the assumptions contained in the Procedures Manual on the Wheatland situation are discussed. Finally, the implications of the results as they relate to Wheatland and Platte County are presented. The report begins with a discussion of the input factors which are required for use

in the Procedures Manual. The remainder of the report continues in the sequence found in the Procedures Manual.

## CHAPTER III, COMMUNITY INPUT DATA

Two major tasks were included in Chapter III of the Procedures Manual: the definition and identification of the community and the collection of input data for the community.

### Selection of the Community:

The selection of the community to be studied was to be performed using a seven-step process. The process involved locating on a map the following items: power plant, coal mines, county within which the plant is located, nearest city capable of serving as a residential area within 25 miles of the plant, nearest larger city within commuting distance (not more than 60 miles), and the county and school district jurisdictions affected by the coal mines and power plant.

The power plant is located within Platte County in southeastern Wyoming. No trouble was encountered in locating the nearest city, Wheatland, which was capable of serving as a residential center. It was not too meaningful to locate the coal mines in this case, since the coal for the power plant comes from locations in Campbell, Johnson and possibly Converse counties. All mine sites are situated a considerable distance from the power plant site.

Several larger communities are located relatively close to Wheatland. Cheyenne, Torrington, Scottsbluff, and Casper

are all located more than 60 miles but less than 120 miles from Wheatland. Although none of these communities would meet the Procedures Manual's criterion for commuting distance, i.e., 60 miles, each of the communities is considered by power plant officials as a possible source of labor, especially during the construction period. However, in keeping with the Procedures Manual's guidelines, none of the communities were considered as possible residences for plant employees.

One potential source of difficulty was presented by the proximity of the reservoir for the power plant to Goshen County. The location of the reservoir is within commuting distance of Goshen County and it is possible that employees will be attracted from that area. Due to the inability of company officials to separate the assessed value of the plant and reservoir, no attempt was made to allocate the various factors and results in Goshen County.

No attempt was made to quantify the effects which the power plant would have on any of the above areas which were located outside of Platte County. While it was deemed necessary to indicate that the power plant would have at least an indirect effect on each of these areas, it was considered beyond the scope and intention of the Procedures Manual to attempt to derive estimates of these effects.

Community Input Data:

The community input data required for Platte County

were gathered from a wide variety of sources. The initial attempts involved contacts of the sources listed in the Procedures Manual. The initial contacts indicated that many of the specific items which were supposed to be readily available from the various Wyoming state agencies simply were not available from these agencies. The inability of the corresponding agencies in the other Old West Region states to furnish the same items was determined through contacts with agency personnel in each of the remaining states. The absence of data from the listed sources led to the use of data from alternate sources.

The difficulties encountered in compiling the community input data were of several types. In some cases, the description of the input factors was inadequate to easily determine the type of information which was required. In such cases, it was necessary to make frequent references to later sections of the Procedures Manual to determine the use of the factor. In other cases, the agency did not have the necessary information in the form which was required to serve as inputs to the various formulae. For example, aggregate information was often available but per capita or household information was seldom directly available from the specified agency. There were also numerous instances in which the information was simply not available from the listed agency. Many of the items which listed the State Department of Revenue, the Department of Economic Development or the Department of Plan-

ning as data sources were not available from these sources. Fortunately, in most cases the location of alternate data sources did not present much of a problem.

Specific items which did create problems during the data gathering phase of the project should be mentioned. Perhaps the single most important factor in the entire analysis deals with employment. The entire analysis is directly or indirectly affected by base and nonbase employment. The Procedures Manual indicates that standard nonbase to base employment ratios which are presented in Exhibit III of the Manual should be utilized in the analysis. However, the researcher is also requested to compile current base and nonbase employment data in order to establish the present level and nature of employment. Substantial differences were found between the standard nonbase to base employment ratios (Exhibit III, Procedures Manual) and the ratio of nonbase to base employment at the state or county level. Because no information was presented which would indicate what types of industries were included in the nonbase and base categories when estimating the standard ratios, it was not possible to determine the cause(s) of the differences. The effects of these differences will be discussed in more detail later in this report.

Difficulties were also encountered in attempting to gather information dealing with retail and wholesale sales. Although the Wyoming Department of Revenue and Taxation compiles

information on retail and wholesale sales, no attempt is made by the Department to publish statistics in this area. Instead, the statistics are limited to sales tax figures. Because the relative portion of wholesale and retail sales which are subject to the collection of sales tax differs, it was not possible to determine the ratio of wholesale to retail sales from Department of Revenue data. Information concerning taxable sales relative to all sales is received by the Department of Revenue but is also not compiled and published. Information concerning the percentage of income spent on retail sales is not received by the Wyoming Department of Revenue. Only in states where both a state income tax and a state sales tax were in effect was this information available. In the other states, including Wyoming, it was necessary to utilize alternative data sources.

Another major source of difficulty which appeared when input factors were being compiled occurred when units of local governments were listed as the data source. Departments within these units of government were frequently listed as sources of data concerning capital expenditures. In practically every instance, these departments were unable to provide an estimate of the capital cost for specific facilities or requirements. This inability to provide such estimates should not be interpreted as a reflection on the competency of the local personnel. Instead, it reflects the absence of adequate staff to develop comprehensive plans which are necessary to make the

required estimates. As a result, it was usually necessary to utilize an alternative approach in order to secure the necessary information.

Several of the data requirements for the private sector were difficult to obtain from the listed sources. Private utilities were reluctant or unable to provide capital construction cost information. Information on sales relative to floor space was not available from the listed sources. All prospective sources of information for this item questioned the ability of a researcher to derive a single figure which took into account the many variables affecting this item.

## CHAPTER IV, COAL UTILIZATION

No difficulties were encountered with respect to the willingness of company officials to cooperate in the completion of the questionnaire for the study (Exhibit 1, Procedures Manual). However, in some areas, company officials were unable to provide a definite answer to the questions. The average wage of plant employees, wholesale purchases and county tax payments were major areas in which the company officials were unable to respond with any degree of certainty. As a result, it was necessary for the researchers to make certain assumptions concerning these variables. These assumptions will be discussed later during the treatment of the various formulae.

## CHAPTER V, ECONOMIC IMPACT

The purpose of Chapter V was to project the economic characteristics of the community about to be impacted by the coal facility.

While various characteristics are included in the chapter, nearly all factors in this, and subsequent chapters, are dependent in some way on two factors: base and nonbase employment. These two factors help determine the new population, households, school enrollment, sales, housing demand, government service requirements and virtually every other requirement.

Base and Nonbase Employment:

Serious difficulties were encountered when the estimation of base and nonbase employment was approached as suggested in the Procedures Manual. Existing base employment was determined using the industry classes in the Procedures Manual: farm proprietor and wage earner, Federal government, manufacturing and mining. The Bureau of Economic Analysis shows 837 workers in these categories in Platte County in 1972. New base employment, i.e., the number of steady state plant workers, was added to existing base employment to obtain total base employment. Company estimates indicate that 140 plant workers will be employed during the steady state period. Next, estimates of total nonbase employment were computed by multiplying total base employment by the ratios of non-

base to base employment figures which were taken from Exhibit III of the Procedures Manual. The nonbase to base employment ratio in the median range was 1.05; in the high range, the ratio was 1.50. Because the total base employment was close to the upper limit of the 800-1,000 employee group, calculations were also made using the ratios in the 1,000 - 1,200 employee group. These ratios were 1.20 for the median range and 1.70 for the high range. Finally, the new nonbase employment was estimated by subtracting the existing nonbase employment from the estimates of total nonbase employment. The existing nonbase employment, 2052, was obtained from the Bureau of Economic Analysis and included all persons except those included in the base employment categories listed above. When new nonbase employment was estimated in this way, negative estimates were obtained in each of the four cases. The only logical interpretation which could be attached to the negative estimates would be an outflow of nonbase employees from the Platte County area during the construction of the power plant. This interpretation clearly does not make sense in this situation.

In order to arrive at a more reasonable estimate of new nonbase employment, an alternative, and seemingly more appropriate, approach was utilized. The median range ratio of nonbase to base employment for the 1,000 - 1,200 employment group, i.e., 1.20, was used in the alternative approach. However, the ratio was applied directly to the new base em-

ployment figure rather than to the total base employment figure. In this way it was possible to recognize that differences may occur in the ratio of nonbase to base employees in the present economy and the employment situation resulting from the power plant. By applying the nonbase to base employment ratio directly to the new base employment figure, an estimate of nonbase employment garnered from the experience of other communities which have experienced energy or mineral related developments was derived. Such an estimate is probably more applicable in this case than one which may be distorted by the factors present in the current economy. The formulae which were used to derive the estimates are:

$$\text{Total Existing Employment} = \text{Existing Base Employment } (IBE_1) + \text{Existing Non-Base Employment } (IBE_2)$$

$$\text{New Base Employment} = \text{Company Estimate } (C_1)$$

$$\text{New Nonbase Employment} = \text{New Base Employment } (C_1) \times \text{Ratio of Nonbase to Base Employment } (SF_1)$$

The relative number of new base employees which would live in the city was estimated using the gravity model included in Chapter V of the Procedures Manual. While no difficulties were encountered in the application of the model, it would have been desirable to have had additional background information concerning the derivation of the model. In this way, the researcher may have felt more confident in applying

the gravity model to this particular situation.

Timing of Data:

The estimation of the number of households in the community brought to light several important questions. The first question deals with the timing of the analysis. When dealing with an absolute figure, e. g., the number of households in a community on a particular date, rather than an average figure, e. g., the number of persons in a household, the selection of the starting date is quite important. A natural tendency may be to select a census year in order to take advantage of the large amount of accurate data available. However, if significant changes have occurred within a community since the census, use of the census year would distort the resulting estimate. In the case of Wheatland and Platte County, the population and, presumably, the number of households have been increasing slightly since 1970. A change far more significant than the slight rate of growth has also occurred. The corporate boundaries of the Town of Wheatland have changed since the 1970 Census and, as a result, the number of households in Wheatland has also changed. Most of the change in the number of households in Wheatland has been due to boundary changes rather than population changes.

Fortunately, the number of instances in which the effects of the above situation, or a similar situation, play a role in the Procedures Manual is quite limited. Most of

the emphasis in the Manual is placed upon the new population rather than the existing population. The only major area in which much emphasis is placed upon the total population, current and new, is in Chapter VII, dealing with public operations. Additional comments concerning the value of using total population are included in the discussion of that section of the Manual.

One common problem accompanies most attempts to utilize the most recent data: the various types of data are seldom available for the same time period. Expenditure figures for Wheatland and Platte County were available for the most recent fiscal year. Population estimates lagged several years behind. Because per capita figures were often required, it was necessary to sacrifice the use of the most recent data in order to utilize data which were strictly comparable. In cases where per capita figures were required, Census Bureau population estimates as of July 1, 1973, were utilized. Similarly, in the case of governments, financial data for the fiscal year ending June 30, 1973, were utilized.

Income:

The income of the new population is largely dependent upon the wages paid to the workers at the power plant. Company officials were unable to provide an estimate of the average wage for these workers. Based upon wages paid to permanent workers in similar situations in the Old West Region, the

assumption was made that the average wage for these workers was $14,000.00. The use of this assumption was made necessary by the absence of company estimates.

Retail Sales:

As mentioned earlier, the State Department of Revenue does not maintain information concerning the percentage of income spent on retail sales. Consequently, it was necessary to utilize information from the Bureau of Labor Statistics in order to determine this input factor. The factor was then used to estimate new retail sales. Total family consumption figures were obtained from the Bureau of Labor Statistics, U. S. Department of Labor. From the family budget were deducted expenditures for housing and taxes. The remainder of the budget was assumed to be spent on retail sales. It should be noted that the percentage spent on retail sales will vary depending upon the types of expenditures included in the retail sales category. Since the ultimate use of the new retail sales figure is in the estimation of sales tax revenues for Wheatland and Platte County, it was considered appropriate to include items in the category which may not be included in the Standard Industrial Classification for Retail Sales. Services, e.g., automobile repair and entertainment, constituted the major class of other items included in the retail sales category. The retail sales factor used in this case was estimated to be 59.11 percent of total family expenditures.

Wholesale Sales:

The estimate of total wholesale sales in Platte County includes an item for local sales to the power plant. Company officials were unable to give an estimate of the amount of local wholesale purchases which would be made by the company. The reason given for the inability to provide this estimate is the fact that Wheatland and Platte County are not considered to be a wholesale marketing area. The only use made of this factor is in the determination of the amount of wholesale space required in the community and the subsequent assessed valuation associated with the additional wholesale space. The importance of this factor, as will be discussed in the section on Chapter VI, is relatively limited.

Housing:

The input factors which were used in the estimation of the new demand for various types of housing were determined by the local planner's office. It was assumed that permanent housing demand would resemble the preconstruction housing demand. A survey made by the planner's office in 1975 indicated the following breakdown of permanent housing at that time:

| | |
|---|---|
| Single Family Units | 73.1% |
| Multi-Family Units | 10.3% |
| Mobile Homes | 16.6% |

Local surveys indicated two vacant multi-family units and five vacant mobile home sites in Wheatland in August, 1975.

## CHAPTER VI, CAPITAL REQUIREMENTS

The purpose of Chapter VI is to estimate the capital requirements of the community which result from the power plant. Only the capital requirements associated with the steady state employment are included in this chapter.

State and County Roads:

A potentially large capital expenditure associated with the construction of the plant would be the construction of new or upgraded highways. The Wyoming Highway Department estimates the cost of a mile of new highway at $343,000 per mile and the cost of upgrading a mile of existing highway at $81,000 per mile. Presently, there are roads in Platte County which are capable of serving the power plant. While company officials have indicated their interest in having additional roads constructed to serve the plant, state, county and local officials have not responded positively to these expressions of interest. It has been suggested by company officials that a new road from Interstate 25 to the power plant be constructed. The purpose of this road would be to provide improved access for employees commuting from other communities to work at the plant. While it is conceivable that existing roads which serve the plant should be upgraded, no local agency has indicated its willingness to perform the necessary work. In addition, one existing highway will apparently be taken out of service as a result of the construction of the reservoir.

An alternate route does exist for employees in this area to permit them to travel to the power plant. No decision concerning the possible replacement or rerouting of the road which will be taken out of service by the reservoir has been made at this time. Because no agencies have indicated their intentions of constructing additional highways or upgrading highways in response to the power plant, no capital expenditures for this item were included in the analysis.

The Procedures Manual indicates that the cost of circulation streets are to be included in the overall city costs regardless of whether the cost is borne by the city or by the developer of a new development. This arbitrary assignment of costs to the city appears inappropriate. City officials in Wheatland anticipate no construction of new streets which would be paid for by the Town of Wheatland. Instead, any new streets would be the responsibility of the developer. For this reason, the costs of these new streets were not included in overall city costs. All other costs which may be incurred by the city would be in the form of upgrading expenditures and would be included in the Town's budget for operating and maintenance expenses.

Water and Sewage Disposal:

Capital expenditures for water and sewage disposal systems may be estimated on two bases: average demand or peak demand. Standard engineering practice is to design such sys-

tems to meet the peak demand. In the case of a water system the peak demand is approximately 68 percent greater than the average demand. The capital expenditures in Wheatland were based on estimates to meet the peak demand. In the case of the water system the average demand is estimated at approximately 180 gallons per day per person. The sewage disposal requirements are estimated at approximately 100 gallons per day per person.

Housing:

As mentioned earlier, the demand for housing, by type, was determined through a survey by the local planner's office. The average size of each type of housing unit was based upon information provided by the Platte County Assessor. The costs associated with the construction of the various types of units were based upon local surveys and cost data contained in the Dodge Reports and the Engineering News Record. The average single family dwelling in Wheatland was estimated at 1250 square feet while the average multi-family unit was estimated at 936 square feet. The construction costs for both units were approximately $30.00 per square foot.

Education:

Estimates of the capital expenses associated with the construction of school classroom units were based upon construction expenditures incurred in the construction of new schools in the Wheatland area within the past two years. The Wheatland elementary schools utilize an open classroom concept

and, as a result, the cost per teaching station is somewhat lower than the typical cost per classroom. Based upon other information gathered during the course of this study, it would appear that the school costs associated with the steady state population should be considered as the minimum capital expenditures required. The estimated cost per elementary classroom is slightly less than $37,000 per classroom while the estimated cost per high school classroom is $40,000.

Hospital:

Rather than using a strict beds per capita figure as suggested in the Procedures Manual the number of beds required for Platte County hospitals was based upon the Hill-Burton formula. Using the national average of approximately four beds per thousand, or .004 beds per capita, the Platte County Hospital does not require any additional beds. However, using the Hill-Burton formula, approximately eleven additional beds are required to meet the needs of the projected population.

Health Clinic:

The expenses incurred in the construction of a health clinic were considered by state officials in all states in the Old West Region to be a private consideration in which the state agencies do not become involved. Only a very limited number of county-operated health clinics in remote areas were found in the Old West Region. Because the Wheatland

area is served by a general hospital, it is unlikely that a county-sponsored health clinic would be required in Platte County.

Fire and Police:

The estimation of fire station, fire equipment and police station costs is an example of a situation in which the Procedures Manual places too much emphasis upon the local units of government. Although the Manual explicitly assumes that the existing city will be small and that there is no staff available to project costs and no plans or studies have been made on capital requirements, the Manual still suggests local estimates for use in the determination of various capital expenditures. Consistent with the initial expectations of the Procedures Manual, no local estimates of police or fire costs were available in Wheatland. Using the Manual's alternate methods, the requirements of one additional fire station, one additional pumper unit and a small amount of additional police station space would be indicated.

Library:

The current situation in Platte County would indicate that no new capital expenses would be incurred for library purposes. Any additional books which would be required would be contained in the operating and maintenance budget.

Criminal Justice and County Government:

The expenses for criminal justice costs and for government offices at the county level were based upon the experience

of a nearby county, Converse County. Converse County is in the process of upgrading county government facilities and the estimated costs per square foot for the Converse County facilities were converted to a per capita basis and applied to the Platte County situation.

Recreation:

Based upon the standards employed by the Wyoming Recreation Commission, Platte County and Wheatland currently have an adequate number of parks to serve the present and projected steady state population.

Commercial Construction:

Information concerning retail space requirements, wholesale space requirements and office space requirements was not available from the Wyoming Department of Economic Planning and Development. The formulation of the equations for these three items is questionable. No consideration is given to excess capacity in the form of vacant space in the retail and office categories. Neither is consideration given to the possibility of expanding the capacity of commercial enterprises by increasing the number of personnel or the hours of operation rather than the size of the structure in which the operation is housed. It seems far more appropriate to refrain from making questionable estimates of retail space costs, wholesale space costs and office space costs than to include the speculative estimates in the analysis. These estimates

enter the analysis in the form of increased assessed valuation and subsequently, increased property tax revenue. The relative effect of omitting these three items from the analysis in Platte County and Wheatland is very slight. Commercial property of this nature is assessed at a rate of 17 percent of the market value. The assessed value of the new power plant is estimated at approximately $216 million. In relative terms the omission of any or all three of these factors would have a negligible effect on the overall assessed valuation. Because the formulae for estimating the amount of construction in the commercial categories do not accurately reflect the factors which are responsible for the increased construction in these areas, the factors were omitted from the capital expenditures analysis. To the extent that the assessed valuation of the community is increased by construction in these categories, the final estimates of revenues for the city and county governments will be understated.

Assessed Valuation:

The added assessed valuation in Platte County resulting from the power plant and its accompanying activities is approximately $217.6 million. The power plant accounts for $216 million of this total. The added assessed valuation in Wheatland is estimated to be $687,000. The added assessed valuation in Wheatland is accounted for by residential construction and utilities construction, and is understated somewhat by the omission of commercial construction.

## CHAPTER VII, PUBLIC OPERATIONS

Expenditures and revenues for public operations in the steady state period are determined in Chapter VII. The projections are made for the total community rather than for the new population within the community. The logic behind this approach relates to the fact that local government operating costs are determined largely by the size of the total community to be served.

Considering the relatively small increase in the population of Wheatland and Platte County which is accounted for by the steady state population, it would seem feasible, and desirable, to try to identify only the increases in government operating costs resulting from the steady state employment. In this chapter and in the cost revenue analysis chapter, Chapter IX, the procedure recommended in the Procedures Manual was followed, i.e., total operating expenditures are estimated. In addition, the additional expenditures created as a result of the new population were also estimated.

The Procedures Manual indicates that expenditures of local governments of comparable size should be utilized rather than using previous budgets of the community to be analyzed. In the cases of Wheatland and Platte County, the increase in steady state population is relatively small. As a result it does not seem necessary, nor wise, to utilize the budgets of government agencies from outside the Platte County region.

With this in mind, the estimates in this chapter were based upon previous operating budgets of Wheatland and Platte County.

Municipal Expenditures:

Municipal expenditures are based upon the operating budget for the Town of Wheatland for the 1972-73 fiscal year. Although more recent data were available, it was not possible to correlate these data with the available population figures. The expenditures per capita for the 1972-73 fiscal year were increased by a factor of 22.3 percent to account for the change in the Consumer Price Index from July, 1973 to July, 1975. Thus, all municipal expenditures were estimated in terms of 1975 dollars. The analysis of municipal expenditures indicated a per capita expenditure of approximately $146.00 during the steady state period.

County Expenditures:

County expenditures were estimated in much the same way that city expenditures were estimated. The operating budget for the 1972-73 fiscal year and a 1973 population estimate were utilized. The per capita expenditures were then adjusted to reflect the change in the Consumer Price Index. An average per capita expenditure of approximately $103.00 is estimated for the steady state period.

School Expenditures and Revenues:

School operating expenses and revenues were based upon the latest year for which complete data were available, the

1973-74 school year. Rather than treating elementary and high school expenses and revenues separately, the unified school approach was utilized. The average per student operating expenditure was approximately $1219.00 in 1975 dollars. The procedure for allocating state assistance to local school districts in Wyoming does not follow the Procedures Manual approach for the estimation of state equalization aid. However, due to the massive increase in the assessed valuation of the school district resulting from the construction of the power plant, it is unreasonable to expect any state equalization aid for the school district in the steady state period. If the present tax rate of 59.53 mills is continued into the steady state period, the total school revenues will be approximately $14.7 million. Of this amount, approximately $13 million is a result of the power plant.

Municipal Revenues:

Municipal revenues were estimated in much the same way that municipal expenditures were estimated. Revenues for the 1972-73 fiscal year were converted to 1975 dollars. Several considerations should be noted in the analysis of municipal revenues. First, the Town of Wheatland is the electrical utility for the town. There is no private utility company serving Wheatland. The revenues for electrical utility sales are not included in the total municipal revenues. It is likely that the exclusion of electricity sales from the total

municipal revenues may understate the amount of revenues per capita. This would be true if the other accounts are subsidized, in effect, by the electrical sales. Second, the Procedures Manual assumes that water sales will equal water and sewage costs. The assumption that water sales will equal water and sewage costs may also understate the municipal revenues per capita for the same reason. Municipal revenues per capita are estimated to be approximately $127.00. The fact that municipal expenditures per capita are approximately $146.00 would indicate that the sale of electricity and/or water has subsidized the other municipal accounts in the past.

County Revenues:

County revenues were estimated in the same manner that city revenues were estimated. Total estimated county revenues in the steady state period are approximately $2.7 million. Of this amount, nearly $2.2 million is due to the power plant. Most of this revenue is in the form of property taxes. Property taxes, if levied at the present rate, would account for nearly all of the $2.2 million.

## CHAPTER VIII, CONSTRUCTION

The effects during the construction of the power plant are estimated in Chapter VIII of the Procedures Manual. Estimates of the construction work force were provided by company officials. The effects of the additional construction workers

required to build the other capital facilities estimated in Chapter VI of the Procedures Manual are also included in the analysis.

The major assumption which was required in order to complete the formulae in Chapter VIII concerned the location of temporary mobile home sites. The temporary pads could be located in the city, remainder of community or at the plant site. Company officials have steadfastly maintained that the company is not interested in entering the housing market. For this reason, the possibility of locating the temporary pads at the plant site was discarded. The presence of public and private services in the city would seem to make it a more desirable place to locate than the remainder of the community, even on a temporary basis. For this reason, it was assumed that all temporary workers' mobile home pads would be located in Wheatland. To the extent that this does not occur, the costs associated with these residents would be overstated. Company officials feel that it is quite likely construction workers will not relocate to Wheatland but will remain in their current place of residence. If this proves to be true, the costs included in the analysis, as mentioned above, will be overstated.

It is important to note that the estimates derived from Chapter VIII extend over a construction period of only 42 months. In the case of Wheatland, the construction period is virtually certain to extend over a longer period of time. As a result, the effects of the construction force will also be felt over an

extended period of time. Similar situations are likely to occur in other parts of the Old West Region.

Employment:

The effects of the construction activity on Wheatland and Platte County were estimated on the basis of information supplied by company officials and the information contained in the Procedures Manual. The employment resulting from the power plant construction in Platte County is shown in Table 1. The types of workers are estimated on the basis of criteria contained in Exhibit VI of the Procedures Manual. The timing of the plant employment at six-month intervals is based upon information supplied by company officials. The first three columns of Table 1 show the construction workers associated directly with the power plant and those construction workers who would be working on capital improvement projects resulting from the power plant. Based upon the Procedures Manual's assumptions, the latter group accounts for approximately 345 person-years of effort spread over the 42 month period. This figure represents slightly less than 20 percent of the total work performed by base employees during the construction period. This group also accounts for approximately 20 percent of the impact of base employees during the construction period. The construction workers are shown in three categories: single, without dependents; married, without dependents; and married, with dependents. The fourth column shows the nonbase to base ratios listed in Exhibit VI of the Procedures Manual. The

TABLE 1

EMPLOYMENT AND POPULATION DUE TO
POWER PLANT CONSTRUCTION, PLATTE COUNTY

| MONTH | SINGLE WORKERS WITHOUT DEPENDENTS | MARRIED WORKERS WITHOUT DEPENDENTS | MARRIED WORKERS WITH DEPENDENTS | NONBASE BASE RATIO | NEW NONBASE EMPLOYEES | TOTAL NEW POPULATION DURING CONSTRUCTION |
|---|---|---|---|---|---|---|
| 6 | 48 | 36 | 157 | .12 | 29 | 735 |
| 12 | 130 | 87 | 652 | .15 | 130 | 2954 |
| 18 | 102 | 68 | 510 | .20 | 136 | 2431 |
| 24 | 205 | 68 | 1096 | .25 | 342 | 5306 |
| 30 | 127 | 64 | 1084 | .30 | 382 | 5322 |
| 36 | 98 | 98 | 1768 | .30 | 589 | 8445 |
| 42 | 43 | 43 | 1648 | .30 | 520 | 7674 |

fifth column of the table shows the new nonbase employees resulting from the presence of the construction workers. The final column in the table presents the total new population, including dependents, resulting from the construction activities. In accordance with Exhibit VI of the Procedures Manual, the average family size of married workers with dependents and new nonbase employees is assumed to be 3.5 persons. All other families are assumed to be single person families.

Housing:

The effects of the construction activity on housing requirements are presented in Table 2. The number of single family, multi-family, mobile home and group quarters which are required on a temporary and permanent basis as a result of the power plant are shown in this table. The entries in the single-family and multi-family columns represent permanent housing units. A small share of the mobile home demand, approximately 37 units, also represents permanent housing demand. The remainder of the mobile home units and all group quarters represent temporary housing demand. Of the permanent housing units, approximately 81 percent are expected to locate in Wheatland. The remainder would be situated throughout the remainder of the community. The group quarters, according to the Procedures Manual, are assumed to be located at the plant site. In this particualr case, this assumption may be invalid due to the company's resistance to

TABLE 2

HOUSING DEMAND DUE TO POWER PLANT CONSTRUCTION, PLATTE COUNTY

| MONTH | SINGLE FAMILY USE | MULTI-FAMILY USE | MOBILE HOME DEMAND | GROUP QUARTERS | TOTAL HOUSING USE |
|---|---|---|---|---|---|
| 6 | 0 | 0 | 222 | 48 | 270 |
| 12 | 19 | 2 | 846 | 130 | 997 |
| 18 | 46 | 6 | 662 | 102 | 816 |
| 24 | 74 | 10 | 1422 | 205 | 1711 |
| 30 | 148 | 19 | 1363 | 127 | 1657 |
| 36 | 167 | 22 | 2266 | 98 | 2553 |
| 42 | 185 | 24 | 2002 | 43 | 2254 |

the construction of housing facilities at the plant site. As mentioned earlier, the temporary mobile homes were assumed to be located in Wheatland.

Population:

Table 3 presents the estimates of the population for Wheatland and for the remainder of Platte County. The entries given in month 0 represent the base population of Wheatland and the balance of the county. These population figures represent Bureau of the Census estimates for July, 1973. Because it is assumed that all temporary mobile home units will locate within Wheatland, the total population in the remainder of the county remains fairly stable. However, the total population of Wheatland rises rapidly from the base period. The population of Wheatland in the 36th month is nearly 4 times greater than the base population. The total population in the entire county is expected to become approximately double its original figure.

Education Requirements:

The effects of the power plant construction on education in Platte County are presented in Table 4. The additional elementary and high school pupils resulting from the construction are given in the first two columns of the table. The number of additional classrooms which would be required to serve these students are presented in the third and fourth columns of the table.

TABLE 3

POPULATION DUE TO POWER PLANT CONSTRUCTION
WHEATLAND AND PLATTE COUNTY

| MONTH | TOTAL POPULATION IN CITY | TOTAL POPULATION IN REMAINDER OF COMMUNITY | TOTAL POPULATION |
|---|---|---|---|
| 0 | 2736 | 4107 | 6843 |
| 6 | 3400 | 4178 | 7578 |
| 12 | 5518 | 4279 | 9797 |
| 18 | 5008 | 4266 | 9274 |
| 24 | 7763 | 4386 | 12149 |
| 30 | 7805 | 4360 | 12165 |
| 36 | 10937 | 4351 | 15288 |
| 42 | 10202 | 4315 | 14517 |

TABLE 4

EDUCATION REQUIREMENTS DUE TO POWER PLANT CONSTRUCTION, PLATTE COUNTY

| MONTH | ADDED PUPILS, ELEMENTARY | ADDED PUPILS, HIGH SCHOOL | TEMPORARY ELEMENTARY ROOMS | TEMPORARY HIGH SCHOOL ROOMS |
|---|---|---|---|---|
| 6 | 188 | 63 | 7 | 3 |
| 12 | 790 | 266 | 28 | 11 |
| 18 | 652 | 219 | 23 | 10 |
| 24 | 1452 | 488 | 52 | 21 |
| 30 | 1481 | 498 | 53 | 22 |
| 36 | 2381 | 801 | 85 | 35 |
| 42 | 2190 | 737 | 78 | 32 |

With respect to the preceding tables, several important points must be considered. The first point which should be considered relates to the timing of the construction of the proposed power plant. Because the power plant is to be constructed in several stages, it is likely that the population and related items found near the 36th month could be expected to continue for a period of time beyond the normal three-year construction period. If this is the case, the capital and related requirements generated by the construction will continue over an extended period of time rather than reaching a peak and then declining rapidly.

A second important point is the fact that the principal value of these estimates is to furnish an indication of the relative impact which the construction will have on Wheatland and Platte County. The absolute numbers contained in the tables are based upon certain standard factors which are included in the Procedures Manual. As a result there may be some variations in the actual numbers which would typically be associated with Wheatland and Platte County. However, in relative terms the use of these numbers and standard factors provides a reasonable assessment of the impacts which the construction of the power plant will have on the area.

Capital Expenditures:

The Procedures Manual indicated that various temporary capital expenditures must be made in order to accommodate the

population resulting from the construction of the power plant. Temporary roads, water systems, sewage disposal systems, utilities, housing and schools are included. In the case of Wheatland and Platte County, the local agencies anticipate no temporary roads to be required by the construction of the power plant. While it is quite likely that temporary roads to temporary mobile home parks will be required, indications are that these costs must be absorbed by the developers of the temporary parks rather than the government agencies. For this reason no temporary road construction costs are included in the construction analysis.

The temporary water system is related to the cost of the permanent water system and is also related to the permanent sewage system cost. The temporary water and sewage systems are estimated to cost approximately one-third the cost of the permanent systems on a per capita basis. While temporary utility costs are requested, these temporary costs are not utilized in the analysis and provide only general information for the researcher. The same thing is true of temporary housing costs.

City and County Expenditures:

Added city and county expenditures during the construction stage are based upon a percentage of the steady state expenditure levels for these agencies. City expenditures during the construction stage are estimated to equal 80 percent of the steady state per capita level, while county expen-

ditures are estimated to equal 90 percent of the steady state per capita expenditures (Procedures Manual, pages 241-242).

Education Expenditures:

The additional costs of education are associated with the needs for additional instruction and additional classroom space. The assumption was made that the additional classroom needs listed in Table 4 would be met through the use of temporary classrooms. It was estimated that these temporary classrooms would be rented at a rate of $450.00 per classroom per month. This cost estimate was based upon figures provided by the Wyoming Department of Education. In addition to the temporary classroom costs there would also be additional instructional costs associated with the new students. These instructional costs were assumed to be equivalent to the per student instructional cost during the steady state period.

Construction Stage Revenues:

Three major sources of additional revenue for the city government were included in the analysis: property taxes, sales taxes and other revenues. The Procedures Manual indicates that property taxes should be assessed utilizing the same tax rate currently in effect. Since the tax levy in Wheatland is extremely low, the amount of revenue generated by using this rate would be negligible. The additional sales taxes resulting from the construction force would contribute a significant amount to the revenues of the Town of Wheatland. Under a new Wyoming

law, one-third of the sales tax collections, less administration costs, are returned to the municipality or county where the sales taxes originate. Based upon an estimated $10.5 million worth of additional retail sales, the additional sales tax received by the Town of Wheatland during the three and one-half year construction period would be approximately $105,000.00. The other city revenues are estimated on a per capita basis utilizing data compiled for the steady state condition.

Additional county revenues are expected to come from additional county property taxes and other county revenues. Additional school revenues are expected to be derived from property taxes and state and federal assistance. The equalization formula provided in the Procedures Manual is not strictly applicable to Wyoming. A variation of this formula was utilized in order to estimate state equalization, or foundation program, support.

Summaries of the above cost and revenue analysis are contained in the following discussion of Chapter IX.

## CHAPTER IX, COSTS-REVENUE ANALYSIS

Chapter IX of the Procedures Manual summarizes the results of the preceding chapters in the Manual. The costs and revenues for the various units of government during the steady state period and the construction stage are included

in the analysis in Chapter IX. Summary tables for the analysis as given in Chapter IX in the Procedures Manual are presented.

Table 5 simply presents a summary of the phasing of community impacts resulting from the power plant. All items in Table 5 represent figures for Platte County. Tables 6, 7 and 8 present the summarization of construction phase expenditures and revenues for Wheatland, Platte County and the school districts. Tables 9, 10 and 11 summarize the capital improvements during the steady state period for Wheatland, Platte County and the school districts. Tables 12, 13 and 14 present a summary of the costs and revenues for each unit of government during the construction phase and the steady state period. Because the costs and revenues would be experienced over a period of years, it is necessary to convert the various amounts to a common value to permit comparison. The basis for comparison is the discounted present value of the costs and revenues. The discounted present value of an item may be thought of as the amount required to be invested at the present time at a given rate of interest in order to yield a specific amount at a specified future date. In effect, discounting an amount to the present value attaches greater value to costs incurred or revenues realized in the near future than to the same costs or revenues in the more distant future. The comparison of the surpluses or deficits resulting from the construction phase

TABLE 5

PHASING OF COMMUNITY IMPACTS DUE TO POWER PLANT CONSTRUCTION, PLATTE COUNTY

| EMPLOYMENT | EXISTING BASE | ADDITIONS TO BASE Months After Start of Construction | | | | | | | STEADY STATE TOTAL |
|---|---|---|---|---|---|---|---|---|---|
| | | 6 | 12 | 18 | 24 | 30 | 36 | 42 | |
| Base Employment | 837 | 242 | 869 | 680 | 1370 | 1275 | 1964 | 1735 | 977 |
| Nonbase Employment | 2052 | 29 | 130 | 136 | 342 | 382 | 589 | 520 | 2220 |
| Employment–Total | 2889 | 271 | 999 | 816 | 1712 | 1657 | 2553 | 2255 | 3197 |
| Population–Total | 6843 | 735 | 2954 | 2431 | 5306 | 5322 | 8445 | 7674 | 7615 |
| HOUSING | | | | | | | | | |
| Single Family | 837 | 0 | 19 | 46 | 74 | 148 | 167 | 185 | 1022 |
| Multi-Family | 118 | 0 | 2 | 6 | 10 | 19 | 22 | 24 | 142 |
| Mobile Home–Perm. | 190 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 232 |
| Mobile Home–Temp. | N.A. | 185 | 809 | 625 | 1385 | 1326 | 2229 | 1965 | N.A. |
| Group Quarters | N.A. | 48 | 130 | 102 | 205 | 127 | 98 | 43 | N.A. |
| Housing Total | 1145 | 270 | 997 | 816 | 1711 | 1657 | 2553 | 2254 | 1396 |

## TABLE 6

### CONSTRUCTION PHASE COST AND REVENUE SUMMARY TOWN OF WHEATLAND

| | |
|---|---|
| ADDED COSTS | |
| City Streets | $ 0 |
| Temporary Water System | 1,384,840 |
| Temporaty Sewage System | 2,396,240 |
| Other Added City Costs | 1,842,068 |
| TOTAL COSTS | $ 5,623,148 |
| ADDED REVENUES | |
| City Property Taxes | $ 171 |
| Added Sales Tax | 105,521 |
| Other City Revenues | 321,324 |
| TOTAL REVENUES | $ 427,016 |

## TABLE 7

### CONSTRUCTION PHASE COST AND REVENUE SUMMARY, PLATTE COUNTY

| | |
|---|---|
| ADDED COSTS | |
| County Roads | $ 0 |
| Other County Expenditures | 1,527,470 |
| TOTAL COSTS | $ 1,527,470 |
| ADDED REVENUES | |
| County Property Taxes | $ 2,193,172 |
| Other County Revenues | 76,136 |
| TOTAL REVENUES | $ 2,269,308 |

TABLE 8

CONSTRUCTION PHASE COST AND REVENUE SUMMARY
PLATTE COUNTY SCHOOL DISTRICTS

| | |
|---|---|
| ADDED COSTS | |
| Temporary Room Costs, Elementary | $ 880,200 |
| Temporary Room Costs, High School | 361,800 |
| Operating Expenditures, Elementary | 5,565,086 |
| Operating Expenditures, High School | 1,871,483 |
| TOTAL COSTS | $ 8,678,569 |
| ADDED REVENUES | |
| Property Taxes, Unified Total | $ 3,238,084 |
| State Equalization, Unified Total | 645,494 |
| Other School Aid, Unified Total | 413,499 |
| TOTAL REVENUES | $ 4,297,077 |

TABLE 9

STEADY STATE CAPITAL IMPROVEMENTS
TOWN OF WHEATLAND

| | |
|---|---|
| City Streets | $ 0 |
| Water System | 379,712 |
| Sewage Disposal | 656,502 |
| Fire Station/Equipment | 126,500 |
| Police Station | 7,570 |
| Library | N. A. |
| Government Offices | 11,766 |
| Parks | 0 |
| TOTAL CAPITAL IMPROVEMENTS | $ 1,182,050 |
| Less projected capital grants for sewage and parks | 328,251 |
| Total Capital Cost to City | $ 853,799 |
| Annual Capital Cost (25 years financing @ 7%) | $ 73,256 |

TABLE 10
STEADY STATE CAPITAL IMPROVEMENTS
PLATTE COUNTY

| | | |
|---|---|---|
| County Roads | $ | 0 |
| Hospital | | 555,000 |
| Health Clinics | | 0 |
| Criminal Justice | | 30,108 |
| Government Offices | | 112,403 |
| TOTAL CAPITAL IMPROVEMENTS | $ | 697,511 |
| Annual Capital Cost (25 years financing @ 7%) | $ | 59,846 |

TABLE 11

STEADY STATE CAPITAL IMPROVEMENTS
PLATTE COUNTY SCHOOL DISTRICTS

| | | |
|---|---|---|
| Elementary School | $ | 195,585 |
| High School | | 144,000 |
| TOTAL CAPITAL IMPROVEMENTS | | 339,585 |
| Annual Capital Cost (25 years financing @ 7%) | $ | 29,136 |

## TABLE 12

### COST - REVENUE SUMMARY BY PHASE
### TOWN OF WHEATLAND

| | Total Budget | Budget Due to Power Plant |
|---|---|---|
| **CONSTRUCTION PHASE** | | |
| Total Costs | $ 5,486,226 | $ 5,486,226 |
| Total Revenues | 427,016 | 427,016 |
| Deficit | $ – 5,059,210 | $ – 5,059,210 |
| **STEADY STATE** | | |
| Annual Capital Cost | $ 73,256 | $ 73,256 |
| Plus Annual Operations | 497,366 | 97,133 |
| Total Annual Costs | 570,622 | 170,389 |
| Annual Revenues | 431,621 | 84,293 |
| Annual Deficit | $ – 139,001 | $ – 86,096 |
| Present Value, Construction Phase Deficit (Discounted @ 10% over 3 years) | $ – 4,199,144 | $ – 4,199,144 |
| Present Value, Steady State Deficit (Discounted @ 10% over 12 years) | $ – 947,987 | $ – 587,175 |
| Combined Present Value | $ – 5,147,131 | $ – 4,786,319 |

TABLE 13

COST - REVENUE SUMMARY BY PHASE
PLATTE COUNTY

| | Total Budget | Budget Due to Power Plant |
|---|---|---|
| **CONSTRUCTION PHASE** | | |
| Total Costs | $ 1,527,470 | $ 1,527,470 |
| Total Revenues | 2,269,308 | 2,269,308 |
| Surplus | $ 741,838 | $ 741,838 |
| **STEADY STATE** | | |
| Annual Capital Cost | $ 59,846 | $ 59,846 |
| Plus Annual Operations | 786,448 | 79,729 |
| Total Annual Costs | 846,294 | 139,575 |
| Annual Revenues | 2,659,929 | 2,199,556 |
| Annual Surplus | $ 1,813,635 | $ 2,059,981 |
| Present Value, Construction Phase Surplus (Discounted @ 10% over 3 years) | $ 615,726 | $ 615,726 |
| Present Value, Steady State Surplus (Discounted @ 10% over 12 years) | $ 12,368,991 | $ 14,049,070 |
| Combined Present Value | $ 12,984,717 | $ 14,664,796 |

TABLE 14

COST - REVENUE SUMMARY BY PHASE
PLATTE COUNTY SCHOOL DISTRICTS

| | Total Budget | Budget Due to Power Plant |
|---|---|---|
| **CONSTRUCTION PHASE** | | |
| Total Costs | $ 8,678,569 | $ 8,678,569 |
| Total Revenues | 4,297,077 | 4,297,077 |
| Deficit | $ – 4,381,492 | $ – 4,381,492 |
| **STEADY STATE** | | |
| Annual Capital Cost | $ 29,136 | $ 29,136 |
| Plus Annual Operations | 1,851,372 | 277,889 |
| Total Annual Costs | 1,880,508 | 307,025 |
| Annual Revenues | 14,730,336 | 12,967,787 |
| Annual Surplus | $ 12,849,828 | $ 12,660,762 |
| Present Value, Construction Phase Deficit (Discounted @ 10% over 3 years) | $ – 3,636,638 | $ – 3,636,638 |
| Present Value, Steady State Surplus (Discounted @ 10% over 12 years) | $ 87,635,827 | $ 86,346,397 |
| Combined Present Value | $ 83,999,189 | $ 82,709,759 |

and steady state periods are contained in Table 15.

The above tables indicate that the units of government in Platte County will experience vastly different impacts from the power plant. The Town of Wheatland is estimated to experience a large deficit during the construction phase and is projected to continue showing a deficit during the steady state period. Platte County government is estimated to benefit from a small surplus during the construction phase and, if the present tax rate is maintained, will show a large surplus during the steady state period. Schools in Platte County will operate at a deficit during the construction phase. However, if current tax rates are continued, the schools would receive an enormous surplus during the steady state period.

The size of the deficits and surpluses shown in the tables are obviously important. A glance at the figures would indicate that the Town of Wheatland may be headed for serious difficulties as a result of the power plant construction and operation. The other units of government would stand to prosper, at least in an economic sense, from the power plant. However, caution must be exercised before too much faith is placed in these, or any other, estimates of the total dollar impact of the power plant. Certain factors must be considered in the determination of the significance of the analysis.

TABLE 15

SUMMARY OF PRESENT VALUE
ALL UNITS OF GOVERNMENT
PLATTE COUNTY

| | Total Budget | Budget Due to Power Plant |
|---|---|---|
| TOWN OF WHEATLAND | | |
| Construction Phase | $ – 4,199,144 | $ – 4,199,144 |
| Steady State | – 947,987 | – 587,175 |
| Total | $ – 5,147,131 | $ – 4,786,319 |
| PLATTE COUNTY GOVERNMENT | | |
| Construction Phase | $ 615,726 | $ 615,726 |
| Steady State | 12,368,991 | 14,049,070 |
| Total | $ 12,984,717 | $ 14,664,796 |
| PLATTE COUNTY SCHOOL DISTRICTS | | |
| Construction Phase | $ – 3,636,638 | $ – 3,636,638 |
| Steady State | 87,635,827 | 86,346,397 |
| Total | $ 83,999,189 | $ 82,709,759 |
| TOTAL, ALL UNITS OF GOVERNMENT | | |
| Construction Phase | $ – 7,220,056 | $ – 7,220,056 |
| Steady State | 99,056,831 | 99,808,292 |
| Total | $ 91,836,775 | $ 92,588,236 |

The estimates for Wheatland and Platte County represent a combination of historical data, standard factors, rules of thumb and assumptions. While every effort has been made to insure the relevancy of each of these items to this particular analysis, obviously it is not possible to guarantee such relevancy. As a practical matter, errors in the analysis will normally tend to be offsetting errors. If one factor is too high, another factor will probably be too low. While this tendency may offer some consolation to the researcher, it does little to reassure the user of the results. It is for this reason that emphasis should be placed on the relative implications of the results rather than the actual results.

The implications of the results of the analysis are staggering. During the construction period, the population of the Town of Wheatland may quadruple. The number of temporary elementary classrooms will be nearly triple the present number of classrooms. The annual capital costs and operating expenses for Wheatland will be approximately double the amount of revenue generated by the new steady state population. The assessed valuation of the power plant is expected to be eight times greater than the entire current assessed valuation of Platte County.

It may be difficult for a local official to study the figures in the tables and relate those figures, in a quantitative way, to the changes required by the figures. However, it

is a simple matter to determine the general implications of those figures. Simply speaking, the power plant will place an extremely heavy burden upon the Town of Wheatland. Without changes in the means of revenue generation, the burden may be much more than the town can bear. Not only is a large deficit generated during the construction phase, but the deficit is projected to continue during the steady state period. As a result, the Town of Wheatland will have to find other means of generating revenues in order to meet the temporary and permanent effects of the power plant. It may be necessary, for example, to investigate the possibility of increased utility rates, especially electrical rates, to compensate for the deficit.

The school districts in Platte County can expect to face a period of difficulties during the construction phase of the power plant. Due to the lag in the receipt of property tax revenues from the power plant, the construction phase is likely to mean substantial deficits for the schools. Once the construction of the power plant is completed, the size of the tax base will be large enough to more than compensate for the earlier deficit. Therefore, the most pressing problem, in economic terms, is to secure short-term financing for construction-related educational needs which can then be repaid from property tax revenues. These revenues will be generated primarily from the power plant. Of course, from

a noneconomic perspective, serious problems are likely to be encountered in attempting to cope with the large increase in students during the construction phase.

The county government is most likely to benefit economically from the construction and operation of the power plant. The county government is not faced with the number and magnitude of capital requirements which face the city and schools. The most significant capital expenditure facing the county is enlargement of the hospital. It is less difficult to delay this type of capital expenditure than many others. Thus, the county could delay the incursion of its capital expenses until a substantial share of the property taxes from the power plant is realized. Property taxes should be sufficient to cover all additional county costs resulting from the power plant.

One of the primary reasons for the difficulties which will be faced by the Town of Wheatland relates to property taxes. While both the school and county governments will benefit directly from the assessed valuation of the power plant, the Town of Wheatland will not. The additional property tax revenue which the Town of Wheatland will receive relates only to the additional private expenditures made within the town. Residential and commercial construction would account for the increase in Wheatland's assessed valuation. Relative to the increase in assessed valuation due to the power plant, the increase in assessed valuation in Wheatland is minimal.

## SUMMARY AND CONCLUSIONS

### Effects on Wheatland and Platte County:

The impact of the power plant on Wheatland and Platte County is likely to be overwhelming. Over 2500 new employees are expected to work in the area as a result of the construction of the plant. The residence(s) of these employees cannot be determined with certainty until construction commences. In the event the new employees locate in Wheatland and Platte County, all phases of the community are likely to be affected. Intense pressures will be placed upon the units of government for additional facilities and services. The Town of Wheatland is likely to be affected most significantly if a large number of the construction employees locate in the area. Given the present means of financing city expenses, substantial deficits would be incurred by the Town of Wheatland as a result of the increase in population. Temporary deficits would also be incurred by local schools as they attempted to meet the educational facilities and instructional demands resulting from the increased population. These temporary deficits would be more than offset by property tax revenues upon completion of the construction of the power plant. The nature of county expenses would indicate that the county government is unlikely to experience any deficits as a result of the construction or operation of the power plant.

Procedures Manual:

The Procedures Manual was applied to the Missouri Basin Power Project at Wheatland, Wyoming. The necessary input factors for Wheatland and Platte County were compiled. The principal difficulties encountered in the compilation of the input factors related to the nonavailability of data from the listed sources. In a limited number of cases, the required data did not seem appropriate for inclusion in the analysis. Problems with the input factors were solved through the use of alternate data sources.

A limited number of problems were encountered with respect to the application of the formulae. The most significant problem related to the determination of base and nonbase employment. Alternate estimation procedures were proposed as a remedial measure.

Once the input factors were compiled, the application of the formulae in the Procedures Manual was a relatively uncomplicated task. In some cases, technical misstatements of the formulae created problems. Measures which would correct these technical inaccuracies have been suggested in a separate report. The corrective measures were incorporated in the application of the Procedures Manual to the Missouri Basin Power Project.

While the actual quantitative results of the application of the Procedures Manual were of interest, the information concerning the relative effects should be quite valuable.

The absolute values associated with these, or any other, estimates are subject to change due to outside factors. In spite of these changes, knowledge of the relative magnitude of the power plant impacts will provide local officials with a valuable planning tool. It is in this area that the Procedures Manual fulfills a necessary objective.